# The value of “low-carbon thinking”

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| In New Zealand, the Climate Change Response (Zero Carbon) Amendment Act 2019 commits us to net-zero carbon emissions by 2050. The transport sector has a significant role to play in achieving this target, requiring a step-change in how we design, build and manage our transport assets. However, low carbon does not mean high cost. Because carbon is a proxy for resource use, focusing on ways to reduce it drives more efficient planning, design, construction and management of assets, and improves bottom line performance.  This paper summarises the “low-carbon thinking” approach that has been applied across the design and delivery of in excess of NZ$15bn of transport projects in the UK and is currently being implemented on a single programme NZ$12bn spend on public transport infrastructure in Australia. The right combination of people, process and technology has saved millions of tonnes CO2e and 10s of millions of dollars on these projects and is directly applicable to NZ.  Within NZ, progress is being made across the infrastructure sector in terms of measuring, understanding and reducing embodied, operational and user carbon. The most significant strides are being realised by those organisations that embrace and embed “low-carbon thinking” in their people and processes and employ technology solutions that support this new way of working.  To now, the transport sector has been slower than other sectors in implementing this approach, particularly in relation to embodied carbon. However, this affords the sector an opportunity to identify the best approaches and crystallise on a standard approach to carbon management across infrastructure – an opportunity the size, makeup and maturity of outlook of the NZ infrastructure sector makes uniquely possible.  The value of “low-carbon thinking” is not merely seen in carbon or financial accounts but through realisation of real quadruple-bottom line value outcomes across public infrastructure delivery and operations. |